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THE VANISHING ELAND.

By H. A. BRYDEN.

AMONGST the rapidly disappearing forms of South African game, the Eland, noblest of all the antelopes of the world, is unhappily taking the lead. Within the memory of old men still alive, this great creature roamed freely over many parts of Cape Colony, and especially in the dry wastes of Bushmanland, which, even to this hour, afford sanctuary to considerable herds of springbok, as well as to the last representatives in the old colony of the gemsbok and hartebeest. Instead of finding the eland—as, with a little preservation, it might well have been—still flourishing in Cape Colony, one must nowadays go far north to overtake it; and even northward one has to penetrate the parched and pathless recesses of the upper Kalahari before one may set eyes upon this stately quadruped, the Eland or elk—an absurd name—of the old-time Boers, the Tganna of the Hottentots, Pofo of the Bechuanas, and Impoofo of the Zulus and Matabele. This northern portion of the Kalahari—well provided as it is with nutritious grasses and vast areas of shady forests of giraffe-acacia and mopani, and isolated by its utter lack of surface-water during eight months in the year from the assaults of native or European hunters—has, down to the present time, afforded safe sanctuary to many of the rarer South African fauna. Here have sheltered in these terrible days of extermination many of those remarkable mammals, which, during the cooler months of South African winter—say from April till November—are enabled to support life without tasting water. The giraffe, the eland, the hartebeest, the gemsbok, and even the koodoo, are to be found in these inaccessible haunts, far remote from any water-supply for great part of the year; the succulent melons and bulbs, and the grasses and leafage of the desert alone affording them moisture.

But even in these unexplored wilds, these rare creatures can, nowadays, be scarcely considered safe. Directly the rains fall, hunters from among the Bakwena, Bangwaketse, and Bamangwato tribes, well mounted, and armed with breech-loading rifles, penetrate to the innermost recesses of the Kalahari, and, wandering from one pool of rain-water to another, deal destruction among the game, and especially among giraffes and elands. That elands are still plentiful in these regions of the Kalahari I can personally testify, having found them in numbers, and procured specimens in two or three days' hunting from the desert road between Khama's and the Botletli River (between Inkonanē and Kannē) as lately as 1890. Coming down country, too, I saw at Sechele's town—Molepolole—numbers of horns and heads of freshly slain elands, some of them magnificent examples, which had been recently shot by Bakwena hunters. But that, even in the North Kalahari, these and other game can long resist the incessant war of extermination waged against them, I am much more than doubtful.

Protection is now given by various laws and proclamations made by the Government of Bechuanaland, and, quite recently, a table of heavy licenses has been issued for the purpose of restraining indiscriminate slaughter by European hunters. In these edicts the Kalahari is included. But in these distant territories it is a difficult, almost an impossible, matter to enforce game-laws. Native hunters—a class more wasteful of animal life than even the Boers themselves—can still take the field; and even if the Bechuana tribes could be restrained from their wasteful methods—they shoot elands merely for skins and meat, and all game when heavy with young, or with young at foot—the Namaqua Hottentots from the German side of the Kalahari, all of them skilled and daring hunters, and fair shots, can still ravage the Central and Western Kalahari, and are absolutely under no restraints.

It is a melancholy fact to acknowledge, but

I fear even the Kalahari and its most difficult recesses can scarcely resist the utter extermination of great game for another twenty years; by that time, unless a very rigid protection sets in immediately—a thing well-nigh impossible—the eland will have been for some years quite shot out in other parts of Africa south of the Zambesi.

For untold centuries, the Bushmen and Baka-lahari of the desert have roamed its flat, trackless forests and grassy wastes, wresting their food supplies from the teeming herds by poisoned arrow, pitfall, and assegai, with no perceptible diminution of the apparently inexhaustible store of animal life. Then, presto! appear the hunting horse, the percussion gun, and the breech-loader, and in fifty short years the ancient fauna—tenants of the plains for ages of the past—the giraffe, eland, gemsbok, hartebeest, zebra, quagga,gnu, elephant, rhinoceros, lion—all the other units of that unexampled array of feral life—are clean effaced from the land. All this has happened already in the lower part of Southern Africa, from which the great game may now be said practically to have vanished; and now the beginning of the end is coming even to that local stronghold the Kalahari itself.

At the beginning of this century, the eland was still plentiful in many parts of Cape Colony. Barrow found it on the Karroo; and in 1813, Campbell, the missionary explorer, mentions it as abounding between Graaff Reinet and the Orange River. Years before that time—in the early days of the Dutch occupation—elands ran in great troops over the whole country; and in Kolben's time (about 1700) were to be found close to the Cape Peninsula. To this day, the former abundance of this goodly beast is sufficiently attested by the frequency with which river, plain, mountain, and kopje are to be found bearing the name of 'Eland,' not only in Cape Colony, but in every corner of South Africa.

But the eland, from its great size and astonishing fatness, is the easiest of all the game to be destroyed. Except in the case of lean, light cows, a gallop of a mile or two on a decent horse is sufficient to run down the pick of the troop. The skin, and especially the flesh, which provides the finest venison in Africa, have always been much sought after by all hunters, and in consequence, the eland has been exterminated from one district to another until Mashunaland and the strip of Portuguese country eastward, the Kalahari, and the regions beyond Lake N'Gami, are the only portions of South Africa where it may be now found. There is one exception to this statement. Thanks to the exertions of the Natal legislature, a few elands are—or were, till a year or so back—preserved in a rough and difficult part of the Drakenberg, dividing Natal from Basutoland. In Mashunaland and the Portuguese territory adjacent, settlers are now beginning to throng; the elands, a very short time since plentiful in that region, are, as usual, the first to be shot out; and a few years must inevitably see their disappearance in those regions also—that is, unless the British South Africa Company can succeed in

making its game-laws respected, an immensely difficult matter in a vast, thinly populated country. There will then only remain in Africa south of the Zambesi the less frequented countries to the westward—the North Kalahari, and the deserts thence to the Zambesi, in which the eland may be found. When we remember that in 1836 Cornwallis-Harris described this magnificent antelope as inhabiting the plains of the interior—that is, the plains beyond the Orange River—'in vast herds,' the survey is melancholy enough.

A curious point in the always singular freaks of the geographical distribution of animals is to be found in connection with the eland. The eland of the Cape Colony, Orange Free State, Transvaal, Namaqualand, and Damaraland, in the old days, and the eland of the Kalahari at the present time, were, and are, always entirely devoid of markings, the body-colouring varying from a dun or fawn in the younger beasts to a bluish buff in the old animals. In Mashunaland and Portuguese South-eastern Africa, and beyond the Zambesi, in all parts of Africa where elands are to be found, they are met with bearing invariably a number of white stripings across the body—very similar to the markings of the koodoo—and are marked also with a black patch on the outer side of the fore-arm, and a dark list running down the spine. These characteristic stripings are entirely wanting in the eland of South-western Africa, which, from the rapid narrowing of its habitat and its constant persecution, is, as I have pointed out, likely not long hence to vanish altogether.

That the absence of stripings has accompanied a more desert and waterless, more temperate and less tropical habitat, is a plain fact enough. And that the stripings appear in all elands throughout the more tropical parts of Africa is also perfectly apparent. To explain the variation is a much more difficult matter. Possibly, heat and moisture have something to do with it. This, however, is a difficult and a thorny subject, and even Darwin himself was oftentimes puzzled to account for the capricious nature of the markings and stripings of animals.

Schweinfurth found these striped elands in the country about the head-waters of the Nile, which would appear to be about their farthest range northward. In no part of Africa do elands appear to have grown to so vast a size, or to have been so abundant, as in the country between the Cape and the Zambesi. Examples of the dun-coloured (unstriped) or desert variety have been killed measuring the enormous height of nineteen hands two inches (six feet six inches) at the shoulder. These were, of course, mature old bulls, carrying an immense amount of flesh and fat, and of prodigious bulk. Sir John Barrow and Sir W. Cornwallis-Harris both mention instances of this measurement, which however, in the good days was by no means uncommon. The enormous weight of two thousand pounds has been assigned to one of these champion old bulls. In these degenerate times, however, the hunter would have to go far before lighting on a specimen ranging much over fifteen hundred pounds.

It is to be remembered that, forty or fifty years ago, immense troops of elands ranged freely over the pick of the country, selecting the richest pastures, and grazing free and undisturbed. Nowadays, like many other species, they have changed their habitats, and seek only the most remote and inaccessible regions. There is a very fine example of eland bull of the striped variety (shot by Mr Selous) in the National History Museum, and another (also of Mr Selous' shooting) at Cape Town. Neither of these specimens, however, reaches, I think, the measurements I have given.

In no part of the Continent did such immense herds wander as upon the high and healthy uplands of Southern Africa, a country which seems to have been almost specially created for the support of countless numbers and varieties of great game. In those glorious days, the eland fed in troops of fifty, eighty, and even one hundred. Even at the present time, in the North Kalahari solitudes, large troops still wander. I have seen great quantities of spoor to the right of the road between Inkonané and Kanné; and in the same region, the only troop seen and hunted by myself and my comrade contained between thirty and thirty-five individuals. Such a troop of these magnificent antelopes is indeed a very noble sight.

The flesh of the eland is excellent—fat, well tasted, and resembling young beef, with a game-like flavour. The shape of the animal is of course well known. For many years specimens of the unstriped South African variety have been bred and exhibited in the Zoological Society Gardens. These elands, however, scarcely fairly represent the beast in its wild state, and grow to nothing like the size and bulk. Mr Bartlett informs me also that the breed shows in captivity a tendency to deterioration, and occasionally requires fresh blood. Many of these beautiful antelopes have been imported and bred as ornaments to noblemen's parks. A former Lord Derby bred them for some years—the present stock at the Zoological Gardens, represents, I believe, his herd. Lord Hill also had some; and there are still a few here and there in parks about the country. A butcher in Shrewsbury once had the carcass of an eland of Lord Hill's for sale, but found it an impossibility to induce people to buy and eat it. Good as was the meat, his customers, with typical British mistrust, would have nothing to say to such newfangled stuff. The eland is so comely, so striking, and yet withal so gentle a beast, uniting some of the finest points of the antelope family with those of the zebu of India, and is so easily domesticated and bred in this country, that the wonder is herds are not more often seen in private grounds. A little fresh blood now and again would serve to keep up the required condition and growth.

Great as is its bulk, the eland, in its small game-like head, handsome horns, and slender, beautifully formed limbs, effectually saves itself from the unjust reproach of the hunter, who, having easily galloped it down and slain it, calls it contemptuously a 'mere cow.' Not the most beautiful Alderney or Jersey that ever stepped can vie with the eland in its best points. The coat of the antelope is wonderfully

clean, and smooth, and short, so much so, that a child would stroke it with delight. As they become older, the hair thins and disappears, so that in the old bulls the skin shines through, and the general colour is a bluish gray. Strip the skin off a fresh-killed eland, and the sweet smell of aromatic herbage upon which the animal has fed comes warm into your nostrils. No beast of the chase is so sweet, clean, and dainty, as this fine antelope, a remarkable fact, if its immense size be taken into consideration.

Can nothing be done to stay the utter extermination of this and others of the great fauna of South Africa? Mr Rhodes has his hands very full, or he could do much. Yet, if he and the High Commissioner of South Africa (Sir Henry Loch) would put their heads together, some scheme of conserving wild game in a National or Colonial Park might without great difficulty be set on foot. Land is cheap enough, in all conscience. Already on the De Beers Estate, near Kimberley, a number of the smaller wild animals have been gathered together—thanks to Mr Rhodes—in a large enclosure. On a greater scale, and in a more suitable country, elands and other large antelopes, and even giraffes, zebras, and other game, might be preserved and perpetuated.

There are vast areas in the north-west of Cape Colony where immense tracts of crown-land suitable for such a purpose still lie waste and unoccupied. The cost of land, of enclosing, and of providing rangers, would not be insurmountable, especially if Mr Rhodes could be induced to take the matter in hand.

There are plenty of other districts in British Bechuanaland, the Protectorate, and even Mashunaland, where land is at present comparatively valueless, well suited for such a game park. There is some talk of an association of sportsmen and naturalists for the purpose of forming such a sanctuary in Mashunaland; it remains to be seen whether private enterprise can compass an end so desirable.

In the Cape Colony, much has been done by private owners upon a small scale to preserve the springbok, koodoo, mountain zebra, black wildebeest (now very scarce), bontebok (still more rare), and other game-animals. Government has for many years saved to the Colony, by judicious preservation, the elephant and the buffalo. Surely something may yet be done for the disappearing fauna of the interior!

No more, in the high and healthful *veldt* of Southern Africa, can the wanderer have the unspeakable pleasure of opening up new and virgin lands tenanted only by teeming herds of great game, of crossing 'unfooted plains, where feed the herds of Pan.' Never again can the explorer and hunter trek, like Burchell, Andrew Smith, Cornwallis-Harris, Gordon-Cumming, Moffat, and Livingstone, day after day, across plateaux-lands where thousands upon thousands of an almost unknown fauna were always in sight—nay, where the curious beasts of chase often approached to stare at the strange wagons and their occupants. Those glorious days, alas! are gone never to return. Mashunaland, now rapidly being depleted, is, on a smaller scale, the last of these favoured regions. And when the game is gone, half the charm and beauty

of the veldt will, for many and many a man, have vanished also. Even the stolid and unimaginative Boers have begun sadly to find this out.

Unless some comprehensive scheme of preservation, strongly backed by the leading powers of South Africa, can be promptly set on foot, the remnant of the most wonderful and abundant fauna the world has ever seen will, not very long hence, have vanished for ever from the wild pastures which they have graced for unnumbered centuries.

THE LAWYER'S SECRET.*

CHAPTER XX.—A CONFESSION.

ON the following morning O'Neil was seated in a corner of the old-fashioned window-seat of his room in the Temple, his feet occupying the opposite corner of the seat, his pipe in his mouth, and one of the morning papers in his hand, when his clerk opened the door, closed it behind him, and approached his employer with something of awe in his face. 'A lady to see you, sir,' he whispered.

'To see me!' cried Terence, starting from his seat.

'Yes, sir. She didn't give her name. She said you would know who it was. Shall I show her in, sir?'

'Better show her in to Mr Bellew's room, or Mr Thorpe's.'

'Beg pardon, sir; but they're in a hawful state of dirt.'

'Well, the smell of tobacco won't kill the lady. Ask her to step in.' He laid down his pipe, and hastily exchanged the old shooting-jacket he wore for a decenter-looking garment. Quick as he was, he had barely effected the change when Lady Boldon entered the room.

So surprised was Terence, that he stared at her for a second or two without attempting to speak to her. Then he recollected himself, took the hand which she held out to him, and got her a chair.

'You must be astonished to see me here, Mr O'Neil,' Lady Boldon began.

'I didn't know you had come up to town,' answered Terence in some confusion. 'I suppose you have come about Hugh—I mean, Mr Thesiger?'

'Yes, I want to see him. I *must* see him. Tell me who the persons are who have power to give me an order.'

Terence named the proper official, and added, 'I feel certain, however, that they would never grant you an order of admission now.'

'Now!' echoed Lady Boldon, clasping her hands on her knees. 'Am I too late, then? I would have come up long ago, if you had not told me you were certain it would be useless.'

'It would have been useless, Lady Boldon.'

'But you have seen Mr Thesiger. Why may not I see him?'

Terence paused for a moment. It was extremely unlikely, he knew, that the authorities would permit Lady Boldon and Hugh to meet, since they now suspected that she might possibly

have been the prisoner's accomplice. But if a meeting did take place, perhaps in the presence of a warder, how distressing it must be for one or both of them! If only he could make Lady Boldon understand that it was Hugh himself who refused to see her! She must be made to know it, sooner or later.

'To tell the truth, Lady Boldon,' he said, 'I fear poor Thesiger rather dreads a meeting with you—under such circumstances, you know.'

'Under such circumstances!' Why, his being in trouble is the very reason I long to see him!—Perhaps you are not aware,' she added proudly, 'that Mr Thesiger and I are engaged?'

'Yes; he told me something of his hopes with regard to you.'

'Then, you see, I have a right to see him.'

'But indeed I have told you the truth, Lady Boldon. He is very averse to meeting you.'

'What!'

O'Neil tried to find a softer phrase. 'I think he feared that it might be too painful for you,' he said.

'Did Mr Thesiger tell you he would rather not see me?' asked Lady Boldon, turning perceptibly paler as she spoke.

'Y—yes; he did.'

'And did he give that as his reason—the effect on me?'

'I cannot remember that he said so in so many words.'

'That is to say, it is a polite invention of your own. Hugh refuses to see me! Ah! That is the worst news I have had yet!'

Terence could neither understand this, nor think of anything to say in answer. It was Lady Boldon herself who broke the silence.

'A little while ago,' she said, 'you let drop the expression, "You could not get an order now." Has anything happened to Hugh since I saw you last?—I mean, has anything come to light—to his injury?'

'No; nothing.'

'Then what did you mean by "now"?''

'Only'—

'Mr O'Neil, do treat me fairly. Do tell me the naked truth. Indeed, it is best.'

O'Neil paused for a moment. It might indeed, he reflected, be best for Lady Boldon's interest that she should have some warning of the blow that was about to fall on her, if he could give her a warning without breaking his promise to Mr Tempest.

'When did you leave home, Lady Boldon?' he asked abruptly.

'By the early train this morning.'

'Then you do not know what may have taken place there to-day?'

'No; but how can that affect the question?'

O'Neil paused again. His promise to Tempest had been for the day only. Surely, if the police allowed the lady to slip through their fingers, that was their lookout. And he thought of Hugh in his solitary cell. What greater service could he render Hugh than to serve the woman he loved so well?

'How can that affect the question?' repeated Lady Boldon, with a touch of imperiousness in her tone.

'In this way,' said the young barrister, 'I fear that—indeed, I know that by this time Roby Chase is in the hands of the police.'

He watched his visitor's face keenly. A look of incredulity that changed into surprise came into it. The surprise gave way to indignation, and that in its turn to contempt. 'They may search where they choose,' she said haughtily.

'But that is not all,' continued Terence, almost in a whisper. 'They have the prescription—for the drug—and they know it is in your handwriting.'

Lady Boldon sat perfectly still. One hand went up mechanically to her throat, as if to loosen something; she was frightfully pale.

'Let me get you a glass of water,' cried Terence, starting to his feet. But at an imperative gesture from the lady he sat down again.

She rose, and walked without support to the window, where she stood looking out on the fountain, plashing merrily in the September sunshine, and the birds that were flitting about in the yellow trees near at hand. She stood there for a minute—it might be two—and then said, without turning round or raising her voice—'The papers said that fragments of the phial which had contained the medicine were found in Mr Thesiger's room. Is that true?'

'It is difficult to swear to fragments of a phial,' answered O'Neil. 'The jury may not believe it. But I am bound to tell you that the chemist, as well as his son, swear to the peculiar border of the label, a little bit of which adhered to one or two pieces of the glass.'

'Mr O'Neil,' said Lady Boldon, 'I must save Mr Thesiger. Take me to a judge or some one, for I wish to make a statement—meantime, in private.'

CHAPTER XXI.—A DISCOVERY.

Lady Boldon and her companion left the Temple, and drove to the office of the Solicitor to the Treasury, almost without exchanging a word. O'Neil felt the silence oppressive, but he could not attempt to break it. There are times when an offer of condolence, or of encouragement, even of sympathy, is an impertinence; and this was one of them.

Then they left their cab, and began to ascend the stairs that led to the Treasury Solicitor's office. Lady Boldon passed through the swing-doors; and in a few minutes they were both ushered into Mr Perowne's room.

An odd look came into the young solicitor's eyes as he bowed to Lady Boldon, and beckoned to the clerk in attendance to place a chair for her. Then he turned to O'Neil for an explanation of the visit.

'Lady Boldon wishes to make a statement,' he said, 'concerning the circumstances attending the death of Mr Felix and the apprehension of Mr Thesiger. She wishes to speak with you in private on the subject. I shall wait for her in the anteroom.' And O'Neil went out, shutting the door behind him.

After an interval of nearly half an hour, Mr Perowne and Lady Boldon appeared, along with a superintendent of police, and the three went down to the cab together.

'I have given myself up,' whispered Lady Boldon to Terence as they descended the steps. At the same time she did not seem to relish the idea of driving through the streets with this man, a policeman in uniform, sitting by her side, and the thought of it made her quiver from head to foot. The blood rushed to her cheeks, then suddenly retreated, leaving her as pale as death. But with an effort she recovered her self-command. Turning to O'Neil, who had followed close behind her, she thanked him for fulfilling her wishes, and then stepped lightly into the cab.

'Mayn't I come with you?' he asked.

The lady's lip trembled at this unexpected mark of kindness; and O'Neil, taking her permission for granted, entered the vehicle. 'You'll want a lawyer,' he said, as they drove off; 'and I may serve, until there is time to get a solicitor to appear for you separately.'

But Lady Boldon did not seem to understand, or to care what arrangements might be made on that head.

The sitting magistrate, Mr Spiers, had nearly got through his day's work, when Lady Boldon was brought into court and placed at the solicitors' table in the 'well.' O'Neil seated himself at her side.

There were very few people in court; and the case caused no excitement except in the little pew where the reporters sat.

The prisoner's statement was put in, and was to the effect that it was she, and not Mr Thesiger, who took the cocaine to Mr Felix's room on the day of his death. That was all. She declined in the meantime to say more. The clerk, who had taken down her statement, swore that it was a correct transcript of her words. Then a policeman—none other than Mr Inspector Clarke—stepped into the witness-box.

'You went down to Roby Chase last night, I think?' asked the solicitor who had charge of the case.

'Acting under instructions,' said the detective.

'Exactly. And you made a thorough search of the house this morning?'

'Me and Sergeant Davidson—as thorough as time would allow.'

'Did you find anything in particular?'

'In the bottom drawer of Lady Boldon's writing-table, under some dusty manuscripts, we found'—

'Wait! Was the drawer locked or unlocked?'

'Locked.'

'Well—what did you find?'

'In the bottom drawer of a writing-table,' repeated the detective, 'in a room known in the house as Lady Boldon's boudoir, under some dusty manuscripts, I found an envelope with Mr Felix's name on the flap. It seemed quite clean—compared with the other things in the drawer. That directed my attention to it. I opened the envelope, which was not sealed, and took out a document.'

'Is that it?' was the next question.

The man took the paper into his hand and looked at it carefully, as if searching for a secret mark he had put upon it. 'That is the paper,' he replied.

'What is it?' asked the magistrate.

'The last will and testament of the late Sir Richard Boldon,' answered the solicitor who was acting for the Crown—'a will, under which nearly the whole of the testator's property is taken from his widow, the prisoner, in case of her marrying a second time.'

Everybody in court started when these words were uttered; but Lady Boldon sprang to her feet. 'It is untrue!' she cried in a loud voice. 'At least, if it was there, in my drawer, I did not know it. I never put it there. I never had it in my hand!' She sat down again, and putting her elbows on the table before her, hid her face in her hands.

O'Neil gazed at her half reproachfully. The policeman's evidence seemed to make all plain. And yet?—That cry, 'It is untrue!' did not sound like the voice of one who was lying.

The magistrate was looking at the lady curiously, almost paternally, over his spectacles.

'The prisoner Thesiger was committed yesterday, or they might have been put in the same indictment; but they can be tried together or separately,' observed the magistrate's clerk in a low tone.—'Fully committed, sir?' he added, speaking to the magistrate.

'Fully committed; yes, of course,' was the answer; and Lady Boldon was taken away.

Everybody in the court thought the case perfectly clear, except two men—Terence O'Neil, and Mr Spiers, the magistrate.

(To be continued.)

MAN'S DAILY BREAD.

It is a curious and interesting study to compare the various materials which serve the different nations of the world as the basis of their Bread. In England, wheat bread is within the reach of all, and takes its place so readily as man's natural food, that rarely a thought is given to the fact that, after all, only the inhabitants of a small portion of the earth's surface enjoy such a food. It is only, too, during the last century that wheaten bread has become altogether general in England; for Eden, in his *State of the Poor* (written in 1797), says, referring to Cumberland, 'It was only a rich family that used a peck of wheat in the course of the year, and that was used at Christmas.' If visitors came at other seasons, they were regaled on thick oatcake. But about this time, English labourers in the Midlands and in the South began to refuse to eat common bread—made of wheat, rye, barley, in equal proportions—saying they 'had lost their rye teeth;' and they demanded wheaten loaves instead. A century earlier than this, barley and rye bread were always eaten. Charles I. speaks of the 'poorer sort of people whose usual bread was barley.'

But although, at the present day, wheat is used across the mid-temperate zone, in more northerly districts, and in some parts of Germany, rye replaces it. Rye bread is less nutritious than wheaten, and has a more distinctive flavour. The well-known German 'Pumpernickel' is rye bread. Although at first its dark colour and sour curious taste render it

unpalatable to English folk, yet, if compelled to eat it for a short time, they acquire a distinct liking for it. In the remoter parts of Sweden, the poorer people only make and bake their rye cakes twice a year, and store them away, so that eventually they are as hard as bricks. Farther north still, barley and oats become the chief bread-corn. But it is in the bleak barrenness of the far North that the ingenuity of man steps in to provide himself with bread. In dreary Lapland, men would starve did they trust altogether to grain; so they eke out their scanty store of oats with the inner bark of the pine; and the two together, well ground and mixed, are made into large flat cakes, cooked in a pan over the fire, and thus form very good bread. In more dreary Kamchatka, the pine or birch bark by itself, well macerated, pounded, and baked, frequently constitutes the whole of the native bread-food. Bread-and-butter to a young Kamchatkian is represented by dough of pine-bark spread with seal fat—not a very appetising combination, to English notions. And not only the bark of the pine is thus utilised for food; the dwellers in certain parts of Siberia cut off the young and tender shoots, and grind them down to form their flour. One imagines that the bread therefrom must have an unpleasantly resinous flavour.

In Iceland, even the hardy pine is wanting; but the Icelanders declare 'that a bountiful Providence sends him bread out of the very stones.' He scrapes a lichen—the Iceland moss—off the rocks, and grinds it into fine flour, which serves him both for bread and puddings, and also as a thickening for his broth. Thus, truly, has stern experience taught him to live where most would starve.

In the sterile parts of Russia, in Pennsylvania, China and other Eastern countries, buckwheat—the seed of the brank—is pressed into man's service. Usually considered only a food for the lower animals, it still makes a fairly palatable bread, although its dark, somewhat violet tinge creates a prejudice against it.

As we pass from the mid-temperate zone southwards, we find new bread materials appearing. In parts of Italy and Spain, chestnuts are cooked, ground into meal, and used both for making bread and thickening soup. Millet is a grain of much service in the south of Europe; while certain varieties known as 'durra' and 'sorghum' furnish a very white flour, making capital bread, to the natives of India, China, Egypt, Arabia, and Asia Minor. Millet has a further interest for us because it is credited with being the earliest grain used in the art of bread-making, an art so ancient that its origin is lost in obscurity. The most primitive bread was simply a tough paste made by mixing flour, water, and milk, such paste serving as bread even at the present day in the caravans traversing the deserts of Northern Africa.

Rice is another grain whose serviceableness in this respect has been recognised from a very early date. Solomon's well-known saying, 'Cast thy bread upon the waters and thou shalt find it after many days,' is generally believed to refer to rice, on account of the method

followed in its cultivation. And the metaphor becomes clear when we reflect that rice is sown in Egypt while the water of the Nile is lying on the land; and in China, it is even cultivated on bamboo rafts covered with earth, and fixed in the middle of a river or a lake. Rice bread is still the staple food of the Chinese, Japanese, the inhabitants of many parts of India, and also in Mexico and some parts of the New World.

Before we turn our attention away from the grains which serve as the basis for bread, some reference must be made to the maize or Indian corn. The native place of this most useful plant is somewhat of a mystery. The Americans claim it to be indigenous with them; but nowhere has it been found growing wild in the New Continent, although the earliest explorers found it in cultivation among the aborigines. Neither was maize apparently known to the ancient Romans and Greeks; nor do we find in the records left by the first travellers in the East any mention or description of a corn at all resembling the maize. It is now, however, very widely cultivated, not only in America, but also in Asia, Africa, and the south of Europe—France particularly. In Mexico, the preparation of maize bread is very primitive. The husks are removed by hand; the corn is then soaked in hot water and lime for a night. The following day, it is placed on a stone and ground with a roller. The Mexican women then make it up into flat loaves, known as tortillas.

But although grain of various kinds—that is, the fruit of different species of grasses—supplies by far the larger part of the world with bread, yet, just as in the regions of extreme cold substitutes have perforce been found for it, so, too, in the tropics other bread-stuffs claim our attention. Thus, in the Molucca Islands, in the Indian Archipelago, the starchy pith of the sago palm—or 'libley tree,' as the natives call it—furnishes a white floury meal. This is made up into flat oblong loaves, which are baked in curious little ovens, each oven being divided into oblong cells to receive the loaves.

Bread is also made from roots, in certain countries of the world. Thus, Stanley in his African travels found the principal food of the natives below the Paya Falls to be derived from the tubers of the manioc or cassava plant—the plant to which we owe our tapioca. The South American natives likewise use it. Curiously enough, the manioc tubers are a fatal poison when eaten in the raw state; but a good and nutritious food if steeped in water previous to using. The right way to prepare this bread is to soak the white, soft roots several days, thus washing out the poison, pick the fibres out, dry, grind into flour, and make into small round loaves. These have a sweet, insipid taste to Europeans.

From the pith and roots we now pass on to succulent fruits serving as bread. First in this category is the banana. This plant grows with great luxuriance in the tropics, and its cultivation is of the simplest kind. It is also stated that, so far as actual productiveness as food is concerned, the banana surpasses all other plants; and given a certain area of

bananas and a similar-sized area of wheat, a far larger number of persons can be supported on the former than on the latter. The unripe fruit is dried in the sun, reduced to flour, and the sweet bread therefrom is excellent and very nutritious.

The plantain, a near relative of the banana, though with a richer and more luscious fruit, also serves a large portion of mankind for bread—in fact, the banana and plantain are the chief food of millions in the tropics. The plantain fruit is not, however, usually reduced to meal, but, instead, the ripe fruit is roasted or boiled, and then eaten as we eat a loaf of wheaten bread. It is said that three dozen plantains are equivalent to the amount of bread required by one man during a week. Thus, in such luxuriant regions, a 'struggle for bread' is unknown to these favoured people; and yet, perhaps, the gain is not all on their side, for, probably, it is to this very struggle that we owe our greater civilisation.

But by far the most remarkable fruit, from the 'bread' point of view, is that which bears the very name of bread-fruit. It is indigenous to the South Sea islands, and the chief support of their inhabitants; in fact, not only does it furnish them with bread, but also with clothes made from the fibres of the bark, timber, fuel—parts of the flowers—and its milky juice serves as a cement. The tree is of medium size, with a beautiful green foliage and spreading branches. It belongs to the same botanical order as the fig, and it is also closely allied to the nettle. The so-called fruit—really a spurious form—is pale-green, large, and round; it has an outer rind, an inner core, and a beautiful white pulp—the edible part. This fruit is cut in pieces, roasted, and eaten, soon after it is gathered. If kept, it becomes tough and unpleasant. When eaten at its best, it is said to much resemble new bread, though rather tart. One traveller has described its flavour to be like 'a crumb of wheaten bread mixed with Jerusalem artichoke!'

Thus, in our hasty review of the world from this point of view, we have seen not only grain of various kinds, but bark, young shoots, a lichen, roots, pith, and fruit all serve man in turn as his daily bread.

RICHARD MAITLAND—CONSUL.

CHAPTER IV.—CONCLUSION.

NOTHING could exceed the excitement and rage which consumed the Prefect when he saw his prisoner thus carried off before his very eyes; he burst into a volley of imprecations, and his few remaining retainers followed his example. An instant of quick thought showed Maitland that this position of affairs would undoubtedly lead to an open riot, which might endanger the lives of the English in the 'foreign settlement,' if he did not immediately carry matters with a high hand. He whispered a word to Captain Rice, who nodded in reply. The Prefect was hastily lifted from the ground by some of the sailors, and, in the company of Wang, carried back to his Yamun. Here

Maitland instantly declared him prisoner; and to ensure his safe custody, the Captain of the *Rattler* placed a guard of twenty men on the Yamun.

While these exciting affairs were going on, poor Amethyst was enduring all the tortures of suspense. She fully trusted that Ming had delivered her note, and this hope sustained her a little; but as her flight from her rooms on the night before had been discovered, she was now more strictly guarded than ever, and two of the most ill-favoured and hardest of the female servants of the Yamun were appointed her jailers. Her agony of mind would have aroused the pity of most; but these women were impervious to her tears and groans. As the morning advanced, and she felt that the hour of her lover's execution was at hand, her restless grief gave place to a stony despair. She sat on a divan with her hands folded on her lap, and an expression in her eyes which showed plainly that she saw nothing of what was going on around her. One of the women came to her, and announced, with a bitter laugh, that Pennant had just been taken to the execution-ground. Although the poor girl expected this blow, it fell with the weight of a thunder-clap.

'It is a lie!' she exclaimed.

'It is no lie,' replied the woman. 'We have just seen him carried out of the gates in a basket, with the executioner behind him.'

Amethyst did not faint; but her face turned whiter than ever, and the cold perspiration stood out on her forehead. The tramp of many feet, and the sound of foreign voices in the outer courtyard, aroused her suddenly from her state of stupor. One of the women rushed off, burning with curiosity to learn the news. She quickly returned with a look of consternation, and briefly announced the fact that Pennant had been rescued by the English Consul and a body of sailors, and that Le was now a prisoner in his own Yamun.

A smile of delight broke over Amethyst's pale little face. 'Oh, how I thank thee, Kwanyin Buddha!' she exclaimed, clasping her hands with fervour.

'You are a heartless daughter,' said the woman. 'You think of nothing but that foreign barbarian. What about your father, cruel girl?'

'My father does not care for me,' replied Amethyst with spirit. 'He never cared for me. I am but a girl; and girls are like dirt in his eyes. He has always treated me badly, and now he forces upon me a marriage which I detest. Yes, the day is bright again; the sun shines, and hope has returned. I will offer up a prayer to Omoto Fuh for the restoration of the Englishman; perhaps he may yet be restored to me.'

The women were too angry to say anything more to Amethyst, and, securely locking her into her room, they left her to her fate.

Maitland on his return to the Consulate was met by Pennant, who clasped the Consul's hand in almost speechless gratitude as he came hastily out to greet him. 'How can I thank you?' he exclaimed. 'You have taken me out of the jaws of death.'

'Foolish boy!' said Maitland, who felt nearer tears than he had ever done in his life before; 'you have been rescued by the skin of your teeth. Didn't I tell you what would happen if you persisted in that mad folly?'

'But the folly is not over,' exclaimed Pennant. 'I mean,' he added, 'what you term the folly is not over. You don't suppose that I am going to leave poor Amethyst to her doom?'

'Heavens! Listen to the lad,' cried Maitland, turning to Captain Rice as he spoke. 'I wonder what you mean to do now?' he added.

'This,' said Pennant stoutly. 'I have been told by one of your servants of what occurred after I was carried away. I mean to go immediately to the Yamun and help the sailors to keep guard until you can bring a sufficient force to enable me to carry Amethyst off.'

'You are mad!' exclaimed Maitland in some justifiable anger. 'You are the cause of the entire quarrel. It is not safe for you to remain another hour in this place; and, in fact, I shall now take matters with a high hand, and prevent your carrying out your wild scheme. If possible, that poor girl shall be saved; but you do no good by pressing your services into the affair. A passenger steamer called the *Lightning* has just come into port, and I propose that you go there immediately with some of Captain Rice's sailors.'

Maitland spoke with such authority, that Pennant was forced to give an unwilling assent. He presently walked out of the room and stood in the compound.

'Bryce,' said Maitland, 'keep guard on that young fellow. I shall not have an easy moment until he is safe on board the *Lightning*.'

Bryce nodded, and stood by Pennant's side in the compound. 'It would be unfair of you, sir,' he said, touching Pennant on his shoulder, 'to get my master into any further trouble. God alone knows if he'll ever get out of the terrible fix you have put him in already.'

'If that is so, I submit,' said Pennant.

'Thank you, sir, for that,' replied the man. 'I know, of course, if you give your word, that it's all right.'

'It is, Bryce—it is.—But surely no one was ever in such a predicament before. The thought of the young lady at the Yamun drives me almost mad.'

'She'll be right enough while the English sailors are there,' replied Bryce; but though he said these words stoutly, in his heart of hearts he felt very uncertain with regard to poor Amethyst's safety. The Chinese are remarkable for their cunning and duplicity. As a mere matter of revenge, the unfortunate girl might be executed at any moment.

That evening, Pennant was safely conveyed to the *Lightning*, and then began that celebrated diplomatic battle which, as Maitland afterwards said, had added in a single week 'many years to his life.' He felt that he had taken a very decisive step in making the Prefect prisoner, a step which only ultimate success would justify in the eyes of the Foreign Office. He wrote immediately to the Viceroy, giving him a full account of what had taken place, and justifying his action on the plea of necessity. This letter

was sent by special messenger, and was replied to by the Viceroy in very strong language. He said that Maitland's action amounted to a declaration of war, and that, for his part, he would find it impossible to hold any communication with him until he received a reply to his memorial to the Emperor. This letter showed Maitland that he must not expect any favour from the native authorities. He knew that it would take some time before the Emperor's ultimatum would be received; he must therefore remain for many days in suspense.

Meanwhile, a blow was being prepared of which he had little expectation. In the Yamun of every mandarin there are always some hangers-on who are accustomed to do the secret work of the office. One such man in the Viceroy's Yamun was a tinge-hai, named Ling, a clever and wily Chinaman. After sending his letter to the English Consul, the Viceroy thought deeply for a time; he then summoned Ling to his presence. As he entered the great man's hall, Ling fell on his knees.

'I have got some work for you to do,' said the Viceroy.

'Your Excellency has but to command, and I obey,' said the man.

'The work before you is this: you are to start immediately for Ch'anyang, to carry a message to the Prefect. At present, he is in the hands of the "foreign devils," and you will have to find some means of gaining admittance to his presence. Having succeeded in this, tell him that I am preparing a force to rescue him, and that on the 15th of this month, two days from now, we shall attack the barbarian guard and release him from captivity.'

Ling immediately started on his mission, which he carried out faithfully, and with his usual wily success. The message from the Viceroy was delivered to Le with all due secrecy. Ling, then, feeling much relieved, proceeded to enjoy himself. When engaged in business, he was a total abstainer from opium; but in moments of relaxation, he found his chief delight in the pipe—he felt now, therefore, that he might indulge in his favourite solace. As he entered the opium saloon which he was accustomed to frequent at Ch'anyang, he was greeted by two or three of the *habitués*.

'Haiyah, his honour Ling has come. What wind has blown you here?' said a man who had more energy than the rest.

'I have come on a matter of business,' said Ling with an air of some importance, as he stretched himself upon the divan and took the pipe which the landlord offered him.

'What business can you have here, when the Prefect is a prisoner?'

'It is about that that I have come.'

As he became more and more under the influence of the drug, his self-control weakened, and in reply to the leading questions of his companion, he had, before the evening ended, told him of the preparations which the Viceroy was making for an attack on the English sailors who were guarding the Yamun. This man—Te by name—started off at once in high delight to the English Consulate. He was not unknown to Bryce, having been employed as a coolie on several occasions, so that when he

came and asked to be allowed to see His Excellency the Consul, Bryce admitted him into the presence of his master.

'This little one,' began the man, 'has some important news which Your Excellency will be glad to know.'

'What is it?' asked Maitland sharply.

'Your Excellency,' said Te, 'knows that this little one is poor. He has now something to sell. Will Your Excellency deign to buy it?'

'I can't attend to you now; you must come some other time.'

'But Your Excellency, some other time will be too late. I want to tell you of news from the Provincial Capital.'

At this Maitland at once pricked up his ears. 'If you have anything of importance to tell me,' he said, 'I will give you its full value. But you must mention at once what it is, for I have no time to waste.'

'The news is this, Your Excellency: the Viceroy is sending General Pêng with a force of five hundred men to take the Prefect out of the custody of your sailors, and to deliver over the young lady Amethyst to her bridegroom Wang. The General starts immediately.'

As Te proceeded with his story, Maitland eagerly scanned his features. His scrutiny of Te seemed to satisfy him. He sat for a moment lost in anxious thought, asked a few more pertinent questions, then said: 'I will give you twenty taels of silver for what you have now told me; and if your news proves to be correct, you shall have twenty more.'

'This little one humbly thanks Your Excellency,' replied Te.

Maitland immediately went to an iron chest which stood in the corner of the room; he opened it, took the silver out, and gave it to Te. The man received it with profound obeisance, and then took his departure. Maitland rang his bell at once for Bryce.

'You must take a note from me to Captain Rice without a moment's delay,' he said. 'Or, stay; I won't even wait to write. Ask him to come to me to the Consulate immediately, on a matter of importance.'

'Yes, sir,' said Bryce. He withdrew, and Maitland began to pace up and down his study in deep and perturbed thought.

In less than an hour, Captain Rice arrived. 'What's up now, Maitland?' he asked as he entered unannounced.

'Why, this,' said Maitland. 'A Chinaman has just brought me news that a Chinese force of five hundred men is leaving the Provincial Capital to-morrow for the purpose of releasing the Prefect.'

'The deuce it is!' said Captain Rice.

'Yes,' said Maitland; 'and we must defeat it. We have gone already too far to allow us in any shape or way to beat a retreat. We must stand to our guns, and I have asked you to come here to draw up a plan of campaign. What force have you at your disposal?'

'Apart from the guard at the Yamun,' said Captain Rice, 'I could, at a stretch, spare a hundred men from the ship.'

'That would be quite enough for the work,' said the Consul. 'But we must make assurance doubly sure, if we are to escape censure

from the Foreign Office. Nothing succeeds like success. Before you came in, I was thinking that I would requisition all the spare men from the *Lightning*. I have no doubt, too, that my troublesome young friend, Pennant, would like to have a share in the fray; he has absolutely taken leave of his senses on the subject of this Chinese girl.'

'A pretty mess he has got us all into,' exclaimed Captain Rice. 'Well, I have no objection. I know the skipper of the *Lightning* well. He is a good fellow, and has the right stuff in him. So I suggest that we ask him to meet us here to-morrow morning at ten o'clock to talk matters over.'

This suggestion was immediately carried into effect; and at an early hour on the following morning Captain Little, the skipper of the *Lightning*, met Maitland and Captain Rice at the Consulate. He listened attentively to the entire story, and then made the following proposal: 'I can supply a force of twenty-five men, including Lascars, from the *Lightning*,' he said. 'These men will of course be under the command of Captain Rice.'

'That will do splendidly,' exclaimed the Captain. 'Of course, I need not say that absolute secrecy is indispensable. I for my part will have everything in readiness on board the *Rattler*, and you will probably take the same precautions on the *Lightning*.'

'Yes,' replied Captain Little, 'my men will be fully prepared.—I know one gentleman on board,' he continued with a grim smile, 'who will be only too eager to be foremost in the fight.'

'Ah! that young scamp!' cried Maitland. 'He little guessed, when he fell in love with a Chinese girl, what trouble he was going to get us all into!'

'He's a plucky lad,' remarked Captain Little. 'I believe if he had his will, he'd submit to any torture rather than allow a hair of that girl's head to be hurt. I'm only able to keep him on board my vessel, sir, because he feels that his honour is pledged to you.'

'Ah well, he comes of a good stock,' said Maitland, who was visibly affected by these words.

Captain Little immediately afterwards took his leave, and the day passed slowly and without any special event.

The evening turned out close and sultry. Peals of thunder were heard reverberating in the distance, and flashes of summer lightning illumined the horizon. Maitland did not think that the attack would be made until the morrow, but he was far too excited to sleep. He went out and paced up and down his veranda, buried in deep and anxious thought. Suddenly, after one of those strange lulls which precede a storm, a crash of tom-toms broke upon his weary ears. In an instant he was all alive, and turning towards the native city, he distinctly saw flashes as of muskets, and heard the shouts which he knew well, of Chinese soldiers entering on a fray. He at once took in the position. Without the loss of an instant, he ran down-stairs and sent the fleetest of his messengers to bear the news to Captains Rice and Little. The next half-hour was one of

terrible anxiety. Maitland knew that the lives of the guards of the Yamun were in imminent danger. Having girded on his sword and armed himself with a revolver, he went out in the direction of the ships. He had not gone far when Captain Rice's cheering shout assured him that help was at hand. At the same time Captain Little with his contingent, which included Pennant, came up, and together the relieving force marched to the scene of the attack.

They were not a moment too soon. The guard at the Yamun had stood manfully to their posts. The young midshipman in charge, though a boy in years, had a square head on his shoulders, and did not understand what fear meant. At the first alarm, he closed the outer gates, and leaving a portion of his guard to defend the entrance, he stationed the remainder at the weak places in the outer walls. For some time the front gates resisted the attack; but a gun which the Viceroy's troops had brought with them shattered the massive doors. With a shout, the Chinese rushed to the attack, but the sailors were equal to the occasion, and a volley from twelve rifles checked the onslaught.

The Chinamen hesitated, and then ran for shelter into doorways and behind the walls of the houses. Their general, however, was made of sterner stuff, and riding ahead of a fresh detachment, he charged in at the doorway. Matters now became serious; and the brave sailors must have been inevitably overborne, had not the sound of a British cheer suddenly aroused them to fresh action. Captain Rice and his men came up quickly. They soon forced their way to the gates; and when once inside, the victory was assured, for the Chinamen were practically powerless before the discipline and weapons of the sailors.

It need hardly be said that Pennant was foremost in the fray. No one fought with such desperate fury as he did. In short, the courage of despair seemed to animate him. As soon as ever the sailors got inside, he desired a couple of likely-looking Jack Tars to follow him immediately, and rushed off in the direction of the women's quarters in the Yamun. Amethyst, who had listened to the fighting in a state of indescribable terror, had at last fallen on her knees. She became (in the passion of her own feelings) almost impervious to the terrible sounds which surrounded her. Her guardians, nearly as excited as she was, relieved their minds with uttering imprecations on the 'foreign devils,' and by calling down every species of shame and indignity on the tombs of their ancestors. A sudden lull in the fighting added wonder to suspense; and while the women were deliberating on the meaning of this, and Amethyst knelt on, uttering feeble little prayers to the goddess who looks down on the miseries of mankind, the door of her room was flung open, and Pennant with the sailors burst in. In a moment he had her in his arms.

'Saved!' he gasped—'you are saved, after all! Come; let me wrap this shawl round you. You must submit to be carried—I can get you out by a side-door. No fear of our pursuers reaching us this time, Amethyst.'

Pennant was right. In less than an hour's time, Amethyst was safe on board the *Lightning*.

Ten days later, this rash and headstrong pair were married in the Cathedral at Hong-kong, when a large crowd of eager spectators, attracted by the novelty of the scene, assembled to witness the ceremony, and when, for the first time, an Englishman vowed before a Christian altar to love, honour, and cherish a daughter of China.

THE MONTH: SCIENCE AND ARTS.

MR J. W. BARRY, the engineer of the Tower Bridge, has recently given some interesting particulars concerning the number of pedestrians and vehicles which cross it daily. The vehicular traffic amounts to about one-third of that which crossed London Bridge before the new bridge was opened. The relief to the older structure is very great, and is plainly apparent to any one who remembers the condition of that once crowded thoroughfare. The average time taken for opening and shutting the bascules, including the stoppage of the land traffic and the passing of a vessel, was estimated, when the bill for the construction of the Tower Bridge was before Parliament, at ten minutes. This has now been reduced to eight minutes, and Mr Barry expresses the belief that the time will be still further reduced in the future.

In times of fog, those living in the neighbourhood of railways are reminded by frequent explosions that a large army of men is actively employed in the dangerous and disagreeable duty of placing detonating signals on the rails. Many attempts have been made to perform this duty by some mechanical arrangement, but no method has yet been successful. The latest contrivance of the kind is the invention of Mr J. F. Dickson of Huddersfield, and several experts interested in railway matters have, we understand, expressed a favourable opinion of its merits. The apparatus consists of a movable arm which, like the human limb which it is made to replace, takes hold of a detonator, and holds it in position upon the rail until the wheel of the engine explodes it. The mechanism is of a simple character, and is easily operated from the nearest signal-box.

Some official statistics recently published in Germany give various interesting facts regarding accidents in the Prussian coal mines. In the year 1893 there were eighty-eight explosions of fire-damp: twenty-one of these proved fatal, sixty-four caused injuries to workmen, while three were unattended either by death or injury. Altogether one hundred and twenty-seven men were killed and one hundred and forty-nine wounded, an increase of seventy-eight on the previous year. It is noteworthy that three of the most disastrous explosions are attributed to coal-dust. As to the cause of these accidents, nine are put down to the use of naked lights, one to tobacco smoking, ten to unauthorised opening of safety-lamps, nine to lamps damaged

in working, twenty-two to the careless use of lamps, and two to blasting operations.

Benjamin Franklin's celebrated kite experiment by which he drew electric sparks from the clouds, which is detailed in most works on electricity, has been repeated by others, in some cases with fatal results. Recently at Aldershot, three men were struck down and severely hurt in consequence of receiving a lightning stroke while in the act of manipulating a captive balloon. The balloon was set on fire by the electric current, which afterwards made its way to the earth by the easiest path—namely, the metallic cable. It seems astonishing that the danger of sending up such a palpable lightning-catcher in thundery weather was not foreseen by those in authority. It was Franklin's experiment over again on a very large scale.

A new colliery which has been established at Eckington, Derbyshire, is utilising the electric current to an extent which is not common in this country. It is lit and entirely worked by electricity. The undercutting of the coal is done by electric coal-cutting machines of the latest type, and even the ventilating fans are driven by electricity. The progress of this new departure in mining will be watched with great interest by many workers.

A French technical journal publishes a method of darkening the oak employed in decorative woodwork. The plan is certainly extremely simple, and is said to give to the material a fine rich colour. The method employed is to place the wood in an air-tight room or large box into which no light penetrates. In this receptacle are arranged several vessels containing liquid ammonia, the vapour of which fills all the available space and gives to the wood a dark-brown colour which sinks for some distance below the surface. The depth of the colour depends upon the strength of the ammonia and upon the time for which it is allowed to act.

Industries and Iron publishes three photographs which should form a valuable object lesson to marine engineers. These pictures represent sections of purposely broken tail shafts from steamers, showing how such masses of metal are subject to a curious decay which may remain for a long time unsuspected, and eventually prove a source of the gravest danger. There is little doubt that the initial injury is due to galvanic action between the shaft and its brass liners. Then the strains due to ordinary driving and the exceptional shocks which the shaft receives from the propeller being struck by heavy seas, become concentrated upon the weak spot, and actual fracture is the inevitable result. It will be remembered that more than one large steamship has, during recent years, been disabled through the fracture of her shaft. The matter is one of extreme importance.

There will be a transit of Mercury across the sun's disc on November 10th, and if the weather conditions are favourable—which is hardly likely to be the case in that gloomy month—the ingress will be visible in this country just before the sun sinks below the horizon. The whole of the phenomenon will, however, be seen by any one who cares to cross

to the other side of the Atlantic, and special reductions in the fare have been made by the steamship *Paris*, which leaves England ten days prior to the event. As another inducement to see this transit, it may be noted that the next transit of Venus, a phenomenon of precisely the same character, will not occur until the year 2004.

Recently, at the Royal Institution, Sir Howard Grubb, who knows as much about the subject as any man living, read a paper upon great telescopes. He proposes that an instrument of large size—and future telescopes are likely to attain colossal dimensions—should practically float on a liquid support. He believes that by adopting this method, a smoothness and steadiness of movement would be secured, which is quite impossible with the mechanism at present used. Such regularity of movement would be especially valuable when the telescope was employed for obtaining stellar photographs; for the exposure of the photographic plate is often a question of hours, and the spots of light representing the stars must, during that long period, be made to fall in exactly the same place. This, of course, owing to the movement of the earth, cannot be done unless the instrument be kept in constant but very exact movement.

The tsetse fly, the scourge of many parts of South Africa, is believed to obtain its deadly power from poisons absorbed from the putrefying bodies of wild animals, and a recent French explorer, M. Foa, gives evidence in favour of the supposition. In the Transvaal, where wild animals of the carnivorous type have become almost extinct, the fly is no longer dreaded, for it is harmless; but in the region of the Zambesi, where different conditions prevail, the terrible insect is as deadly as ever.

There are possibly few persons in this country who know that a very large industry is represented by the shark fishery, and that shark oil is exported in large quantities from Iceland to other countries. This oil is of a very fine colour, it does not thicken, and is said to possess the medicinal qualities of cod-liver oil, for which, indeed, it is often substituted. At least a hundred boats, schooners of about fifty tons burden, are engaged in this fishery, and they work during the winter about twenty miles from shore, but have to get away to the deeper water in the summer time. The boats return to port at intervals of one or two weeks, with from a hundred to a hundred and twenty barrels of liver, each liver yielding about five gallons of oil. Healthy livers are the exception rather than the rule. The Icelanders altogether neglect the fins, skin, and teeth of the shark, which are valued in other parts of the world: in China for instance, the fins of sharks are regarded as a great delicacy. The Iceland shark is not such a terrible monster as that found in the Australian waters, but it attains a great size, and many fishermen fall victims to its voracity.

Some investigations with reference to the effect of tea and coffee upon digestion have recently been published by Professor Schulzenstein. By employing an artificial gastric juice

the professor was able to ascertain that 94 per cent. of coagulated white of egg was digested in eight hours, but that when the albumen was mixed with tea only 66 per cent., and when mixed with coffee only 61 per cent., was digested; the digestibility of the food being found to vary according to the strength of the decoction of tea or coffee added. These investigations would seem to show that a meat or 'high tea,' a convenient but nondescript meal which many busy workers indulge in, is not conducive to health. The injurious effect is supposed to be due to the presence of tannin.

Recently some experiments have taken place in the transmission of autographic messages by telegraph between Dover and London, and from the published accounts one would suppose that these are the first experiments of the kind which have been made. This is not the case, for more than forty years ago Bakewell's telegraph, an account of which can be found in most of the old text-books, transmitted handwriting between Brighton and London. By the same instrument, invisible messages were sent which could be rendered legible by the receiver. The apparatus was exhibited at the Great Exhibition of 1851, and received a medal. About ten years ago, another more perfect instrument for transmitting actual handwriting was contrived by Mr E. A. Cowper, and was successfully employed for some months on the South-western Railway. There are, however, few occasions likely to arise when the actual handwriting of a person is needed to be sent by telegraph, the ordinary instruments answering most requirements.

It is curious to note how the progress of knowledge causes the medical profession to change its opinions. It has always been thought that the use of new bread is most unhealthy, a doctrine which is religiously believed in and acted upon in most households. But a Russian doctor now asserts that new bread is far more beneficial to the consumer than that which has been cut and exposed to the air, and has had time to gather the numerous germs which find in the material a nutrient medium. The heat of the oven is destructive to these germs, and hence new bread is found to be perfectly free from them.

From a very interesting paper on a specimen of early Scottish iron (which is hidden in the Transactions of the Inverness Society), we get information concerning the remains of iron workings which are to be found in the neighbourhood of Loch Maree, and along the banks of the stream which connects the loch with the sea. It is supposed that some of these workings were started at the close of the sixteenth century, and it is certain that Sir George Hay, who afterwards became High Chancellor of Scotland, established iron-works in the neighbourhood in 1609. The ore was bog ore found in the vicinity, while the extensive woods all round provided the necessary charcoal. At a later period, iron ore from the Whitehaven district was employed. Many pieces of iron have been found in the neighbourhood, and in the paper to which we refer the composition of the metal is stated, together with plans and a description of some of the workings.

An Austrian engineer named Eckstein is reported to have produced a flexible substitute for glass. This new material appears to be made of collodion, to which is added a certain percentage of castor-oil and turpentine. The mixture is poured on a glass slab, and is dried by a current of hot air, and as a result a plate of glass-like material is produced, which can be bent but not broken. The substance will resist the action of most chemicals; is not so inflammable as celluloid; and by adding a white pigment to it while in the liquid state, a substance is obtained similar in appearance to ivory. This flexible glass is very tough, and can be mixed with any pigment required.

The authorities of Boston Harbour are perplexed at finding the *Teredo navalis* in possession of their premises, and it has begun to make serious havoc in the woodwork there. The *Teredo* has long been known on the southern coast of New England, but Boston harbour, it was believed from the lower temperature of its water, has hitherto been free from the pest. An interesting account of the creature, and of the mischief which it occasions, was lately given before a meeting of the Boston Society of Civil Engineers by Mr Henry Manley. It seems that the full-grown animal sometimes attains a length of three feet. It enters the wood which it attacks by a very small hole, and after that passes its life within the substance. The two large shells by which the boring operation is performed appear to be quite loose from one another in the dead animal, but are evidently connected during life by powerful muscles. The amount of work which one of these creatures can execute during a season is astonishing. For instance, two large dredging scows were taken to the mouth of Boston Harbour at the end of May, and in October they began to leak, simply because of the number of holes bored through the thick planks by the *Teredo*. It would appear that while the animal remains in the water, it passes through different stages of growth. In one of these stages it can swim; in another stage it has a foot which enables it to fasten itself to any object, and to move about to a limited extent. When it once makes its entrance into wood, its progress is most rapid. It does not eat the wood, but simply uses it as a habitation.

The Photographic Exhibition annually held by the Royal Photographic Society of Great Britain is now open in the rooms of the Water-colour Society, Pall Mall, London. While the pictures shown are of very high quality, there is no special novelty to report upon, but the pictures show that the method of photographic printing has undergone a change within recent years. Formerly the great majority of the pictures hung at this and similar exhibitions were printed on albumenised paper, as could be seen by the high gloss which they bore. This was considered by many to be most prejudicial to artistic effect, and now papers with dull surfaces are the rule. Albumen paper had, too, the disadvantage of not affording permanent results. It has been, therefore, in great measure, displaced by printing in platinum, carbon, and upon paper prepared with gelatine. These give

a great variety of tints, and the walls of the exhibition to which we have referred are therefore not so sombre in colour as they were in former years.

A new material is being employed in the United States for the building of boats and canoes. It is called 'linenoid,' for its basis is linen, which, after being softened into a pulp, is shaped over a form and afterwards rendered waterproof. There are no seams or joints in a boat made of this material, and the whole structure is said to be of the flexibility of metal, while at the same time it is very light. The keel and other parts where strength is requisite are made of ash or oak, and where metal is necessary, gun-metal or brass is employed. From a description of the boat which we have consulted, we think it would be fair to describe such a vessel as consisting of a skeleton of wood covered with an outer skin of the new material.

It is generally believed that decay in teeth is associated with a high state of civilisation, and that all peoples living in a more natural state are free from the dental troubles which beset their more civilised brothers. But a correspondent in *Nature*, Mr J. H. Mummery, says that twenty years ago his father, who made an exhaustive inquiry into this very question, came to a very different conclusion. He examined all the available collections of skulls in Great Britain, about two thousand in all, and as a result he found that among thirty-six ancient Egyptian skulls there were fifteen with carious teeth; amongst seventy-six Anglo-Saxon skulls, twelve; among a hundred and forty-six skulls of Romano-Britons, forty-one; and among forty-four miscellaneous skulls of ancient Britons, nine. Foreign collections gave similar results. Nor did he find the skulls of savage races more highly favoured in this respect, for among the Tasmanians, twenty-seven per cent. were found to have bad teeth, while twenty per cent. of native Australians, twenty-four per cent. of East Africans, and twenty-eight per cent. of the natives of West Africa, were equally in want of a dentist's services.

This is an age of very remarkable surgical operations, but perhaps one of the most extraordinary ever conceived was performed a few weeks ago by Mr J. A. Bloxam, Senior Surgeon at Charing Cross Hospital, London. A young man had presented himself at the institution whose face was minus a nose, and the object of his visit was to inquire whether modern surgery could supply the deficiency. The surgeon in question endeavoured to make a nose from the amputated finger of another patient, but the attempt failed. The applicant then suggested that one of his own fingers should be applied for the purpose, and in order that the member should not be sacrificed if the operation proved unsuccessful, he had to remain for four weeks with his finger attached to his nose, in the hope that eventually it would take root there. This it did, and the finger was subsequently detached from the hand and modelled as nearly as possible to the form of the central feature of the face.

Goods for sale which are hung outside shop-fronts offer a constant temptation to the dis-

honest, and the loss to tradespeople from robbery of articles thus exposed is very great. With the object of stopping such depredations, a London tradesman has invented a simple form of apparatus which will sound an alarm bell directly any theft is attempted. The apparatus consists of a row of hooks upon which the various articles for sale are suspended, each hook being in connection with an electric bell placed at any convenient point inside the shop. When any article is taken from its hook, contact is made with a battery current, and the bell rings.

'A retired sea-captain,' interviewed by the reporter of an enterprising American journal, gives some interesting particulars concerning the seal and its habits. Unlike the majority of mammals, the male seal is the devoted parent, while the mother is most apathetic with regard to her offspring, and will desert them on the first scent of danger. The sense of smell in the seal is so acute that, if a man approaches them ever so quietly from the windward side, they will wake from sleep and make off. But one may easily come among them from the other direction, and they will show no sign of fear, apparently not detecting a strange species except by the sense of smell.

Dr T. D. Crothers has been publishing some remarks upon what he considers to be a very promising subject for study—namely, the effects of changes in the weather upon humanity. In his own case he has found that damp and foggy days lead to faulty deductions and misconceptions which afterwards fill him with astonishment. He tells of the actuary employed by a large insurance company who is obliged to stop work in such weather owing to the constant mistakes which he finds himself making. In a large factory, from ten to twenty per cent. less work is done in unfavourable weather than at other times; and in the execution of orders the superintendent is obliged to take this factor into calculation. It is asserted by fire-insurance authorities that in depressing weather greater carelessness occasions more fires than at other times; and the drivers of railway engines have curious ideas about accidents and increased risks being coincident with bad weather. Dr Crothers is convinced, seemingly, that alternations of sunshine and rain have far more to do with the success of our work and our happiness than most of us imagine.

It has been known for many years that the dusts of certain substances when mixed with air are highly explosive. Many flour-mills have been destroyed from this cause, before it was found necessary in such places to use protected lights. In a coal-mine, the dust is doubly explosive, owing to its admixture with fire-damp. Professor Hall has recently been making experiments upon the inflammability of coal-dust, to which cause may be attributed so many fatal accidents in our mines. He regards coal-dust free from impurities as being almost as sensitive as gunpowder. This latter explosive he would entirely exclude for blasting purposes in mines, and would substitute for it ammonite or roborite, which he finds, after numerous experiments, will not ignite fire-damp. He also

suggests that the dust in dry workings should be repeatedly watered. These suggestions have often been made before, but they do not seem to be acted upon.

A new form of thermometer is now being made in Germany, which utilises toluol, in place of the familiar mercury or alcohol. There are several advantages claimed for this substitution. Toluol is a liquid of deep black colour, which can be readily seen, and its freezing and boiling points are very widely separated. It is much cheaper than mercury; and its manipulation is attended with no evil consequences to the workmen engaged in the manufacture of the thermometers.

OLD LONDON RIVERS.

In this levelling age—an age that aims at obliterating all traces of the past—the old Rivers of London that ran through green fields, 'gilded with heavenly alchemy,' are utterly forgotten: rivers that now run beneath great City thoroughfares on their silent course—beneath old City churches and churchyards.

The most famous was the Fleet, 'the River of the Wells,' as it was appropriately called; for into this river there fell three fountains or wells—Holy Well, Clement's Well, and Clerkenwell; and many minor springs, which greatly increased the flow. It took its rise in the rural heights of Hampstead, fresh and clear; but as it reached the town, passing the City wall, it became dark and unwholesome. For, as the population about Clerkenwell and Holborn increased, the river became a receptacle of every kind of garbage. Several attempts were made to keep it clean, so that boats and barges might pass and unload their cargoes at Holborn as they had done before. The condition of the Fleet at this period has been described by Ben Jonson in a poem called 'The Famous Voyage,' depicting the 'hare-brained adventures of Sir Ralph Shelton and Mr Heyden,' who undertook to row from Bridewell to Holborn. But after the Great Fire the river was converted into a dock or creek. It was considerably deepened, so that barges could once more ascend for some distance. At the same time, the sides were built of stone and brick, wooden railings being placed about it, and wharfs and landing-places constructed. The 'New Canal,' as it was now called, was forty feet in breadth. In spite of its new name, however, and the money that had been spent upon it, the speculation proved unprofitable.

Fleet Bridge was one of the four bridges over it, a bridge which connected Ludgate Hill with Fleet Street. It was a stone bridge, 'made or repaired at the charges of John Wells, mayor, in the year 1431;' for on the coping, John Wells was honourably engraved, 'embraced by angels.' It was afterwards rebuilt the breadth of the street, for the convenience of

coaches and carts. The sides were raised 'above breast high,' and thereon the City arms were engraved. To the south was Bridewell Bridge; and near Fleet Prison, to the north, was Fleet Lane Bridge. Holborn Bridge, also of stone, crossed the river at Farringdon Street, where the 'Hole-bourne' ran down from Holborn Bars the entire length of the road, and fell into the Fleet. This brook was long ago stopped up at the head, and in other places 'where the same hath broken out; yet the said street is called High Old-borne Hill; and all the grounds adjoining that lie betwixt it and the river of Thames remain full of springs, so that water is there found at hand, and hard to be stopped in every house.' The Fleet and the Oldbourne, in the opinion of modern topographers, were one and the same. The part which admitted the flood-tide was called the Fleet. The whole district of Farringdon Street, indeed, runs over the course of the old river.

It was the Fleet which formed the western bulwark of London for hundreds of years. There was no such stream westward for many miles; no creek deep enough, or sufficiently wide, for commercial purposes. But this river, in the time of Edward I., was navigable to King's Cross. Ship Court and Seacole Lane, which have now disappeared, were well-known landmarks at the time the Fleet was a harbour. All its windings have been traced out from its source at Hampstead Heath to its mouth at Blackfriars. It did not 'meander' through open meadows, or go miles out of its way to avoid a hill: the Fleet made its mark, on the contrary, deep and indelible wherever it flowed; and it can therefore be easily understood how it gained its early name of 'Hole-bourne,' when we find it, at no very distant time, running between banks in places as steep as cliffs. And yet so completely have these banks been covered, that Stow and other antiquaries had to invent an 'Oldbourne,' and to make the river flow down Holborn Hill in order to account for the name. The Hole-bourne, in fact, was the early course of the Fleet; and its wanderings can be discovered by the contour of the land through which it flowed. For two miles from the 'Vale of Health' at Hampstead, past the Gospel Oak—where the parishioners came in the middle ages to mark the boundaries—skirting the slope of Kentish Town, with Camden Town on the right, it reached St Pancras Church, a deserted neighbourhood even in the sixteenth century, and far away among the fields.

But it is at Battle Bridge, now King's Cross, that the river begins to enter the long valley, from which it never emerges until it reaches the Thames. High clay hills rise up on either side: one is crowned by the walls of Coldbath Fields Prison, and another by the scarcely more cheerful institutions of Clerkenwell. As elsewhere in the Thames valley, mammoth bones have been discovered along the course of the Fleet; and of one such skeleton an antiquary has argued—though some will have it the elephant lay there since the universal deluge—that it was 'brought over by the Romans and killed in the fight by a Briton.' This hypothesis, though very ingenious, fails to account for

all the discoveries of the remains of elephants along the banks of the Thames and Lea. There have been other discoveries also which throw light upon the early condition of Middlesex; and vestiges of a vast forest on this northern shore of the estuary may occasionally be found at no great depth. The decline of the Fleet, in these modern days, from a river to a brook—as the Thames has declined from a huge lagoon to a mere river—may be accounted for by remembering what an important part forests play by retaining moisture in the air and soil. The Fleet was once known as Turnmill Brook; for numerous mills were erected upon it, 'as appeareth by a fair register book' of the Priory of Clerkenwell. 'The stream north of Fleet Bridge,' it has been remarked, 'justified the epithet of Turnmill Brook. Till the middle of the last century it gave motion to flour and flattening mills at the back of Field Lane.' There was an advertisement in the *Daily Courant* in 1741 which announced a house to let in Bowling Alley, Turnmill Street, 'with a good stream and current that will turn a mill to grind hair-powder or liquorish or other things.' In the time of Elizabeth, the country in the neighbourhood of Cowbridge—a bridge that crossed the stream in Clerkenwell—was covered with gardens. The river was first arched over between Holborn Bridge and Fleet Street; and when Blackfriars Bridge was built in 1765, the portion between Fleet Street and the Thames was also covered in.

Walbrook—so named from running through the city and from the wall, 'with divers windings into the river of Thames'—had many bridges over it; and in its course along streets and byways it divided the city into north and south. It has been hidden underground since the fourteenth century, though a glimpse of it was gained at the corner of Bread Street in 1595, while digging a vault fifteen feet below the surface; and it was seen once more as late as November 1803, 'still trickling among the foundations of the new buildings of the Bank.' It took its rise in the fens beyond Moorgate, and passed through Lothbury, and thence beneath the lower part of Grocers' Hall—about the east side of their kitchen—and under St Mildred's in the Poultry, which during the middle ages was built on an archway over the brook; thence through Bucklersbury at the spot where a house called 'The Old Barge' once stood, because barges out of the Thames were rowed up so far into the stream; and so the river flowed to Elbow Lane, and by Greenwich Lane into the Thames. The west side of the parish church of St John-upon-Walbrook looked upon the river bank hard by Horseshoe Bridge—a bridge over the brook in Horsebridge Lane. It was burnt down by the Great Fire, and was never rebuilt; but the churchyard was a burying-ground as late as the last century, the parish being joined to St Antholin's. The church which stood on the east bank—St Stephen's—is still standing at the corner of Walbrook Street; and its interior is one of the finest among the old City churches.

At the feast of St Margaret the Virgin in 1291, we find Sir Ralf de Sandwich inquiring into the condition of the bridge over the

Walbrook at Bucklersbury. He had previously given orders as to the cleansing of the course of the stream from where it entered the city to the Thames at Dowgate. The bridge was in a dangerous state. It had been repaired many years before by Walter Harvey, 'Improver of the City,' who had charged the cost against the occupiers of four adjacent houses, probably those which stood at the four corners of the bridge. One of them was the old mansion of the Bukerels, from whom the district was named. Another had belonged to Richard de Walebroke. In ancient times, four stones marked these tenements. A jury of 'certain men' of the adjacent wards found that the tenants of these houses were bound to keep the bridge in repair, and the sheriffs were accordingly ordered to see it done.

In the earlier days of the Romans—the days when British maidens went down the steps by the Walbrook to fill their great red jars of Kentish pottery—the banks were very popular as sites for villas. In the valley of the Walbrook, a villa floor was lately discovered not less than forty feet below the present surface. All along its winding course, at a varying depth, evidences have been brought to light of the wealth and luxury of dwellers in the pleasant ravine beside Threadneedle Street and the heights of Cornhill. And it was not until the time of Edward IV. that the mandate went forth 'that such persons as had any ground on either side of the Walbrook should vault and pave it over so far as his ground extended.' It was arched over with brick, and paved with stone, so that 'the trace thereof,' says a topographer of the last century, 'is known but to very few.'

The Langbourne—'so called,' says Stow, 'from its length'—ran from the north-eastern corner of the City to the declivity of Walbrook, all along the northern front, except where a thoroughfare, parallel to Gracechurch Street—nearly on the site of Botolph Lane—crossed it; thence it went out north towards Ancaster and Lincoln. The two great streets—Watling Street and Ermyng Way—met at the bridge foot. Here was the market-place, still known as East Cheap. 'There was possibly a small river postern at this spot,' Mr Loftie has suggested in his 'History of London'—'lately marked by Ebbgate Lane, and probably a larger one opening on the bridge.' Vestiges of rude buildings have been found on the banks of the river; and it is supposed by some writers that a native village of Dowgate fishermen stood on the height.

There were two other rivers of some importance, that, like the Fleet, had their rise in the north of London—the West-Bourne and the Tyburn. The West-Bourne originally fed the Serpentine, but it now flows underground into the river near Millbank. The source of the Tyburn was not far from the Swiss Cottage, on the first slopes of Hampstead; thence it flows for a few hundred yards through the Regent's Park and across Marylebone Road—Marylebone Lane, in fact, once overhung a bank of the river. It ran close to Mandeville Place, over Wigmore Street, and approached Oxford Street at Gee's Court; its way then tended—after

coursing through a labyrinth of lanes behind Broad Street—a little to the west, through South Moulton Street and across Brook Street by Avery Row to Grosvenor Mews, reaching Berkeley Square at the foot of Hay Hill. Here the river again turns westward, and only enters the Green Park at Engine Street—now known as Brick Street—whose name would seem to indicate the existence of a water-wheel at some remote period. Across the Green Park the windings of the Tyburn are occasionally revealed, in the present day, by a line of mist. It then passes through the ornamental water in St James's Park, and falls into the Thames. In olden times, however, part of the water ran into the ancient Abbey of Westminster, where it was carefully piped by the monks for their own use.

The few rivers once in sight on the south side of London, with the exception of the Wandle, have also disappeared. There were the Quaggy River and the River Pool, which once fell, between Deptford and Greenwich, into the Thames opposite the Isle of Dogs. There was the river Effra, which had its rise near Dulwich Hill, passing Stockwell on the right, and Kennington on the left, and entering the Thames at Lambeth. The Wandle, which may still be seen falling into the river near Battersea Reach, runs through Wandsworth from the chalky hills of Surrey. Croydon owed its trade to the Wandle; but the river now flows underground through that town, where—like the rivers that flow under the streets of London—it is borne no longer in mind.

VOICES OF THE HUMAN HEART.

I FELT the breath of the expiring year
Pass in the moaning breeze, and to my sight
Glistened each star as 'twere a frozen tear
Upon the mute and lonesome face of Night.
Time, in our breasts, that slumbers not nor sleeps,
Marks the faint murmur of Eternity,
As ever round with rhythmic impulse sweeps
Some little eddy of the Life to be.

We look, and lo! afar doth stretch the deep
With ebb and flow amid the storm and calm,
Raising its thunderous praises to heaven's steep,
Or chanting to the shore a lowly psalm;
While in the ears that hear, from little hearts
That shrink and swell as with imprisoned love,
Steal o'er the silence of their inmost parts,
The nearer echoes of a Voice above.

THOMAS HARKNESS.

* * TO CONTRIBUTORS.

- 1st. All communications should be addressed to the Editor, 339 High Street, Edinburgh.
- 2d. For its return in case of ineligibility, postage-stamps should accompany every manuscript.
- 3d. To secure their safe return if ineligible, ALL MANUSCRIPTS, whether accompanied by a letter of advice or otherwise, should have the writer's Name and Address written upon them IN FULL.
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